

REMARKS

This communication is in response to the Office Action mailed on July 25, 2005. In the Office Action, claims 1-50 were pending, of which 1-5, 20-22, 24, 39, 48 and 50 were rejected and claims 6-19, 23, 25-38, 40-47, and 49 were objected to.

The Office Action reports that claims 1-5, 20-22, 24, 39, 48, and 50 were rejected under 35 U.S.C. §102(b) as being anticipated by "Progress in Determination of the Area Function of Indenters Used for Nanoindentation" by Hermann et al.

Claim 1 has been amended to recite a computer readable medium including instructions readable by a computer, which when implemented, cause the computer to detect a significant event in measurement data comprising the steps of receiving measurements as a function of at least one variable, generating values from the received measurements, the values indicative of multiples of a standard deviation, selecting a lower bound of the values based on a first selected multiple of the standard deviation, selecting an upper bound of the values based on a second selected multiple of the standard deviation, and calculating the significant event based on the lower bound and the upper bound. [emphasis added]

The amendments to claim 1 clarify that the significant event is detected using the additional steps of receiving measurements as a function of at least one variable, selecting a lower bound of the values based on a first selected multiple of the standard deviation and selecting an upper bound of the values based on a second selected multiple of the standard deviation. The significant event is then calculated based on the selected lower bound and upper bound. It is respectfully submitted that the amendments of claim 1 are supported at least in FIGS. 8 and 9 as well as corresponding portions of the written description; and thus, no new matter has been added.

It is believed that Hermann et al. is a research paper that discusses aspects of uncertainty caused by tip geometry in

indentation, especially nano-indentation. Particularly, it is believed that Hermann et al. discuss determining area functions of the indenter tip based on (1) direct determination from coordinate measurements obtained using a scanning force microscope and (2) indentation into reference materials with known Young's modulus and Poisson ratio.

In light of the amendments to claim 1, it is believed that the above rejection of claim 1 is moot and should be withdrawn. For example, it is believed that Hermann et al. do not teach or suggest selecting a lower bound and an upper bound and calculating the significant event based on the selected lower and upper bound. In fact, it is believed that Hermann et al. altogether fails to address how the point (i.e. significant event) at which the indenter tip contacts the test or sample surface is detected.

In light of the foregoing, it is believed that claim 1 is patentable over the cited art. Claims 2-5 and 48 depend on claim 1 and are believed to be separately patentable. Reconsideration and allowance of claims 1-5 and 48 are respectfully requested.

Claim 20 has been amended to recite a computer readable medium including instructions readable by a computer, which when implemented, cause the computer to detect an initial point of engagement between an indenter or tensile tester and a test sample from data measurements comprising the steps of receiving a data series indicative of test measurements as a function of a first variable; generating at least one processed series from the data series; identifying a first point on the at least one processed series; identifying a second point on the at least one processed series; calculating the initial point of engagement as a function of both the first point and the second point.

Claim 20 has been amended to clarify that the computer detects an initial point of engagement. This point of engagement

can be from an indenter or tensile tester and is calculated from a first point and a second point on the processed series. As with claim 1, the features of claim 20 are supported at least in FIGS 8 and 9 and corresponding portions of the written description. Remarks relating to claim 1 are also incorporated herein. Thus, it is believed that Hermann et al. do not disclose how the point of engagement is calculated or detected, but rather, is focused on calculating an area function for an indenter tip. Thus, it is respectfully submitted that claim 20 is patentable over Hermann et al. Claims 21-22 and 24 depend on claim 20 and are believed to be separately patentable. Reconsideration and allowance of claims 20-22 and 24 are respectfully requested.

Claims 39 and 50 have been cancelled.

The Office Action reports that claims 6-19, 23, 25-38, 40-47, and 49 would be allowable if rewritten in independent form with all of the limitations of the base and any intervening claims.

The applicants have rewritten claim 6 as an independent claim as suggested. Claims 8-16 depend on claim 6 and are believed to be separately patentable. Claims 6 and 8-16 are presented for favorable action.

Claim 7 has been rewritten as an independent claim as suggested and is presented for favorable action.

Claim 17 has been rewritten as suggested. Claims 18-19 and 49 depend on claim 17 and are believed to be separately patentable. Claims 17-19 and 49 are presented for favorable action.

Claim 23 has been rewritten as an independent claim and is presented for favorable action.

Claim 25 has been rewritten as an independent claim. Claims 26-35 depend on claim 25 and are believed to be separately patentable. Reconsideration and allowance of claims 25-35 are respectfully requested.

Claim 36 has been rewritten as an independent claims as suggested. Claims 37-38 depend on claim 36 and are believed to be separately patentable. Reconsideration and allowance of claims 36-38 are respectfully requested.

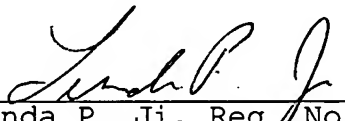
Claim 40 has been rewritten as an independent claim as suggested. Claims 41-46 depend on claim 40 and are believed to be separately patentable. Reconsideration and allowance of claims 40-46 are respectfully requested.

Claim 47 has been rewritten as an independent claim as suggested and is presented for favorable action.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By:   
\_\_\_\_\_  
Linda P. Ji, Reg. No. 49,027  
Suite 1400 - International Centre  
900 Second Avenue South  
Minneapolis, Minnesota 55402-3319  
Phone: (612) 334-3222 Fax: (612) 334-3312

LPJ:lms